

A NEW GENUS
OF JUMPING ANTHRIBID WEEVIL FROM JAMAICA
(COLEOPTERA: ANTHRIBIDAE: CHORAGINI)

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ABSTRACT

A new genus and species of apterous, glabrous, saltatorial anthribid weevil, *Apteroxenus globulosus* is described and illustrated from Hardwar Gap, Jamaica. It is a member of the subfamily Choraginae, tribe Choragini, and appears closest to *Euxenus* LeConte.

The anthribid subfamily Choraginae is characterized by the frontal insertion of the antennae; all other anthribids have the antennal insertion on the lateral or ventral surface of the beak. Within the Choraginae, two tribes are distinguished by the shape of the eyes: Choragini have vertically elongate eyes which are closest together dorsally, Araecerini have rounded eyes. Each tribe contains some genera with the head retractile into the prothorax past the eyes, and others have the eyes too wide for such retraction. Both tribes contain many undescribed taxa and many species that are incorrectly assigned.

The new genus below is one of those Choragini with a retractile head. Like most members of this complex, the insect has strong saltatorial powers. The unique holotype was collected by Mrs. Valentine in Jamaica over twenty years ago; several extensive recent collections from the island and even from the type locality have not contained additional specimens.

Apteroxenus Valentine, **new genus**
(Fig. 1-3)

Apteroxenus (G. *pteron*: wing + *a-*: absence; and G. *xenos*: a stranger).

TYPE OF GENUS: *Apteroxenus globulosus* Valentine, new species.

DIAGNOSIS: A unique flightless genus of Anthribidae with antennae inserted between the eyes on the frons; sides of prothorax with two carinae at base neither of which attain the apex; scutellum invisible; elytra appear connate.

DESCRIPTION: Female, small, about 2 mm long; very broadly oval, maximum length only about 1 1/3 times width; dorsal surface very convex, hemispherical, recalling a partially contracted specimen of the various silphids and scarabaeids which can roll into a ball; dorsum polished, shining, glabrous. *Rostrum* virtually absent, plane with frons, parallel sided, apex tri-emarginate; postmentum short, reduced, apex broadly emarginate and medially impressed, lobes broad, rounded apically, and impunctate, base (judging from visible portions) without transverse impression; mandibles small, (inner edges covered by large, convex labrum). *Antennae* inserted on frons between eyes; scrobes each with low rounded tubercle on inner margin, and each running diagonally downward and outward to lateral margin of beak. *Eyes*



Fig. 1. *Apteroxenus globulosus* Valentine, female holotype; line equals 1 mm.



Fig. 2-3. *Apteroxenus globulosus* Valentine, female holotype: 2, oblique lateral view; 3, head *en face*. The weak antennal geniculation is a preservation artifact. Drawings by David M. Dennis.

reniform, vertically elongate, slightly oblique, closest posteriad, inner margin concave, approximately 10 facets wide and 18 facets long. *Prothorax* broader than long, dorsum with small, deep, widely spaced punctures, mid-dorsal length about twice mid-ventral; transverse carina subbasal, complete, curving anteriorly at sides for about 1/3 distance to apex, angle broadly rounded and very obtuse; a second lateral carina beneath the above mentioned one extends about 1/2 way to apex; a faint transverse carina posterior to main one; front coxae narrowly separated, antecoxal strip of prosternum narrower than coxal diameter and deeply punctured, postcoxal strip almost vertical, coxae contacting (or capable of contacting) mesothorax. *Scutellum* invisible. *Elytra* appear connate, each with basal edge faintly convex and oblique, forming a very shallow V, following posterior edge of prothorax; without impressed striae, but with ten rows of very small, deep punctures in addition to short scutellar row. *Venter* with scattered large punctures; mesosternal process as wide as a coxa, its apex truncate, metacoxae elongate, transverse; metasternal strip between meso- and metacoxae strongly narrowed, its minimum width less than diameter of a tibia. *Legs* fairly long, hind femur longer than abdomen; third tarsal segment with lobes separate, small; claws with quadrate basal tooth.

DISTRIBUTION: At present includes a single Jamaican species.

RELATIONSHIPS: The closest relative of this genus is *Euxenus* LeConte. The two genera share possession of elongate eyes approaching on the frons, tuberculate scrobes, retractile head, non-reticulate pronotum, double lateral prothoracic carinae, and 10 rows or groups of elytral punctures plus the abbreviated scutellar row. The major differences are found in the appar-

ently connate elytra, concealed scutellum, remarkably attenuate metasternum, and the remarkably globose form of *Apteroxenus*, and the opposite conditions in *Euxenus*. The first three features appear in at least two other groups of apterous anthribids (*Phaenotheriopsis* Wolfrum and *Acaromimus* Jordan) and are associated with loss of flight.

Apteroxenus is probably a very specialized off-shoot of West Indian *Euxenus* stock, and is known only from Jamaica. *Euxenus*, on the other hand, occurs from Canada southward at least to Panama, and has undescribed species in Cuba, Hispaniola, and Puerto Rico.

Apteroxenus globulosus Valentine, **new species**
(Fig. 1-3)

HOLOTYPE: Female, Jamaica, Portland Par., Hardwar Gap 4000' viii-3-56 (B. and B. Valentine) "Under bark of wet-rotten log in rain forest. Jumped."

DIAGNOSIS: Pronotum with numerous, small, deep punctures, these separated by distances from 1 to 3 times their diameter; dorsal-most of lateral carinae much shorter than the ventral one; prosternum punctured except for a narrow longitudinal area just below the lower lateral carina; transverse dorsal carina very minutely roughened.

DESCRIPTION: Female, length (head excluded) 1.9 mm, variation is to be expected; glabrous, very robust, convex, and humped, maximum body width 70% of length (in dorsal view); dorsum shining black, venter, rostrum, and appendages dark reddish brown. *Head* with rostrum barely differentiated, supra-labral region continuous with frons; mandibles slightly directed forward; scrobes tuberculate, upper margins with sharp-edged carina which attains eye, directed diagonally downward across anterior surface of head, attaining side margins below lower margin of eye; antennae with segment 1 long-cylindrical, gradually widened apically, attaining edge of face, 2 much shorter, more abruptly widened apically, 3 to 6 progressively longer, together shorter than 1 + 2, club loose, 9 and 10 each with small median notch or emargination at apex, this spongy-pubescent, and segment 11 unique in that the smooth shining area extends along outer margin to apex, spongy-pubescent region restricted to inner apical portion, both shining and spongy portions of club with scattered long bristles; derm of head with very faint, sparse punctures, single larger median puncture just above upper margin of eyes, surface with just a trace of roughening but below antennal insertions becoming alutaceous with deep central punctures, these progressively shallower laterally. *Prothorax* with intercoxal process on same plane as metasternum; other features discussed in the generic description and the species diagnosis. *Scutellum* invisible. *Elytra* with raised margin laterally but not basally, although basal edge is faintly roughened; scutellar row of punctures short, progressively closer to suture; first row of punctures oblique, approaching suture until slightly past scutellar row then parallel to suture, row 4 sinuate anteriorly, rows 5 and 6 combined at basal fourth, 7 abbreviated anteriorly, not reaching basal margin; all punctures finest on apical declivity. *Pygidium* large, centrally convex, apex rounded, narrowly margined, disc smooth with very small scattered punctures, these larger laterally and forming a closely placed row just within marginal rim. *Venter* with abdomen very short, sternites 1-4 with about two transverse rows of punctures laterally, these narrowing to one row on the midline, sternite 1 with row along anterior margin, 2, 3, and 4 with row median, 5 impunctate. *Legs* with both femora and tibiae elongate, slender; tarsi with segment 5 almost as long as 1 and 2 combined. *Male* unknown, will probably have a median concave area on abdomen. *Female* with abdomen convex from side to side.

SPECIMENS EXAMINED: The unique Jamaican holotype. This individual was discovered by my wife Buena Valentine on the sodden bark of a rotten

stump partially buried in leaf litter. It crawled with the deliberation of an oribatid mite, then leaped wildly when disturbed. Considering the saturated forest, the downpour (which was a daily occurrence), and the size and activity of the insect, it is remarkable that she was able to recognize the specimen as a choragine anthribid and to collect it. Considerable search for additional specimens was in vain.

REMARKS: I know of no other New World anthribid with so robust a body. In dorsal view the species looks almost round, whereas the other humped, mite-like genera all have a characteristic oval or pear-shaped outline when viewed from above. The type locality is actually in montane cloud forest rather than rain forest as labeled.



BOOK REVIEW

The biology of insects, by C. P. Friedlander. 1977. Pica Press, distributed by Universe Books, 381 Park Avenue South, New York, NY 10016. Cloth, 189p., \$12.50.

Although written for college undergraduates this book may serve also as a reference for high school biology teachers and students, as well as interested laypersons. Several chapters are very well done but others are somewhat superficial. Chapter 1, which covers major features of insect morphology and physiology "in relation to terrestrial life," is excellent in its coverage of the cuticle, respiration, excretion, and flight. Clear diagrams enhance the well-written text. In Chapter 2, on the variety of insects, the author aims "to express the salient features of the most important ones." In spite of the reasonably good and abundant diagrams the text is simply much too superficial. For example, of the 28 orders of insects mentioned, 4 are individually covered by 1 sentence, 5 orders receive 2 sentences each, 5 are covered by 3 sentences each and 4 by 4 sentences each. The complex topic of insect evolution (Chapter 3) is covered in less than 9 pages. On the other hand 40 pages are devoted to adaptive radiation (Chapter 4) and 16 of those pages consider "general adaptations in the Coleoptera." The discussion on beetles and their adaptation to aquatic life and their adaptations to burrowing is presented clearly both in text and in diagrams. Chapter 5 is supposed to cover behaviour and ecology but the actual attention given to ecology is minimal. In his description of Müllerian mimicry Friedlander seems to be at variance with most authors when he states that it "occurs when one or more aposomatic models are mimicked by species which are not necessarily as noxious as the models, or possibly not noxious at all." The accepted interpretation of Müllerian mimicry is that both model and mimic are unpalatable and that the pooling of numbers between mimic and model serves to reduce the losses of both species to predators. Chapter 6, on the economic importance of insects, is the longest chapter and probably the one of greatest value to the layman. Insect control with insecticides, genetic control, and biological control are discussed briefly but interestingly, and more complete coverage is given to insects of medical importance and to insect pests of agriculture and forests. This book is not sufficiently comprehensive for the serious student of entomology.

—P.P.S.